

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application:

1. (Currently amended) A barrier movement operator comprising:
an A.C. motor having a rotatable rotor connected to a barrier for movement thereof;
sensing apparatus to generate motor signals representing an operational variable of the motor;
controller for controlling movement of the barrier by controlling the energization of the motor and being responsive to changes in the sensed operational variable represented by the motor signals for changing the energization of the motor wherein;
the motor is constructed to exhibit an enhanced operating characteristic of sensed operational variable to torque to improve the rapid detection by the controller of changes in a rate of movement of the barrier by detecting changes in the operational variable;
wherein the sensed operational variable is the rate of rotation of the rotor of the motor; and
wherein the motor exhibits a no load rotation rate in the range of 1000 to 2000 revolutions per minute and an operating characteristic in which a change in torque output of the motor of approximately 1 ft.lb. results in a change in the rotation rate of the range of 30 to 120 revolutions per minute.
2. (Original) A barrier movement operator in accordance with claim 1 wherein the motor is an induction A.C. motor and the enhanced operating characteristic is achieved by controlling a conduction resistance of inductance powered rotor conductors.
3. (Cancelled)

4. (Cancelled)

5. (Original) A barrier movement operator in accordance with claim 1 wherein the sensed operational variable is driving current to the motor.

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Currently amended) A barrier movement operator comprising:
a motor comprising a rotatable rotor coupled to a barrier for movement thereof between open and closed positions;
position detecting apparatus generating position signals representing a position of the barrier during movement of the barrier;
motor speed detecting apparatus to generate motor signals representing a sensed operational speed of the motor;
a controller responsive to the position signals and the motor signals for controlling the motor to reverse a direction of movement of the barrier during a first range of sensed positions when the sensed operational speed of the motor is less than a first amount determined by subtracting a first parameter from an expected motor speed and for reversing the rotation direction of the motor during a second range of sensed positions when the sensed operational speed of the motor is less than a second amount determined by subtracting a second parameter from an expected motor speed; ~~and~~

the second parameter is greater than the first parameter; and
wherein the motor exhibits a no load rotation rate in the range of 1000 to 2000 revolutions
per minute and an operating characteristic in which a change in torque output of the motor of
approximately 1 ft.lb. results in a change in the rotation rate of the range of 30 to 120 revolutions
per minute.

12. (Original) A barrier movement operator according to claim 11 where the barrier is moved between an open position and a closed position and the second range of sensed positions occurs when the barrier is near the closed position.

13. (Original) The barrier movement operator according to claim 11 wherein the second range of sensed positions occurs within 18 inches of the closed position.